

of its cranium. The bones associated with the head comprise some of the cervical vertebræ, the greater part of the tail, one scapula and coracoid, the greater part of one wing, remains of the other wing, and one hind foot. The scapula and coracoid are fused together. The humerus, which is imperfect distally, cannot have exceeded 0·075 m. in length, while (as already noted by Lydekker) the respective lengths of the second, third, and fourth wing-phalanges are 0·165 m., 0·140 m., and 0·136 m. respectively. The hind foot measures 0·070 m. in length, and, judging from the slenderness of its toes, the hind limb must have been as small and weak as in the other species of *Rhamphorhynchus*. Though equally long, the toes are only about half as stout as those of another portion of hind limb in the British Museum, which was also provisionally ascribed to "*Rhamphorhynchus grandis*" by Lydekker (*loc. cit.* p. 33, no. 42737).

EXPLANATION OF PLATE I.

Fig. 1. *Rhamphorhynchus Gemmingi*, Meyer; palatal aspect of skull, nat. size.—Lower Kimmeridgian (Lithographic Stone); Solenhofen, Bavaria. *bpt.*, basipterygoid processes; *iov.*, infraorbital vacuity; *ipr.*, interpterygoid vacuity; *itv.*, infratemporal vacuity; *mx.*, maxilla; *pa.*, palatine; *pmx.*, premaxilla; *pt.*, pterygoid; *ptv.*, posterotemporal vacuity; *qu.*, quadrate; *x.*, supposed transverse bone. (Brit. Mus. no. R. 2786.)

Fig. 2. Ditto; mandible of same specimen, oral aspect, nat. size.

Fig. 3. *Rhamphorhynchus longiceps*, sp. n.; skull and mandible, right lateral aspect, nat. size.—Lower Kimmeridgian (Lithographic Stone); Eichstädt, Bavaria. *aor.*, antorbital vacuity; *ltv.*, lateral temporal vacuity; *md.*, mandible; *na.*, external nares; *orb.*, orbit; *s.*, hinder end of mandibular symphysis. (Brit. Mus. no. 37002.)

II.—A Revision of the Genera of the ARANEÆ or Spiders with reference to their Type Species. By F. PICKARD CAMBRIDGE, B.A.

THE following notes contain some important conclusions with regard to the signification and synonymy of various genera and species.

Many generic names which have been treated by authors as either unsuitable or superfluous, or both, will have to be restored, at all events to the extent of ascertaining what is their type species. Such, for instance, are those published by Simon in 1864 and those founded by Templeton and published by Blackwall in the same year. It is possible that

the latter will never take position as indicating recognized generic groups, because the type species have never been identified, and possibly never will be; but if they ever should be identified and any generic group founded on them, or if they be discovered to be congeneric with any group founded under some later name, then they will have to be recognized. In any case the names themselves are not available for use in any other branch of zoology; and since they are not included in Scudder's 'Nomenclator Zoologicus,' it is advisable to publish them.

Many of Simon's genera, however, will doubtless at some future time take their place in systematic arachnology, for the tendency is always towards increased subdivision, as the analysis of characters becomes more minute and their delineation more accurate; and it is absolutely essential, if we are ever to see an end to the present chaos, that type species should be selected for them by one or other of the processes explained in my recent communications (*Ann. & Mag. Nat. Hist.* ser. 7, vol. viii., Jan. 1901; and *op. cit.* vol. viii., Nov. 1901).

With regard to these methods, I must here make one restriction, and that with reference to the removal of a species from a genus by "*implication*" into another genus previously founded.

As a matter of fact, the action involved would amount to an assumption that the author had no right to place that particular species under his genus on the grounds that it was congeneric with the type of some earlier genus, and had by implication already been removed.

Of course an author has a perfect right to include any species he likes, and must face the consequences if the last species left in his group by subsequent withdrawals turns out to be congeneric with the type of some earlier genus, whereby he loses his own name as a synonym.

The process, moreover, is indirect and leads to great confusion, for it may afterwards be urged that the implication hypothesized in the removal was erroneous, that the species removed was not congeneric with the earlier genus, and that therefore the selection of the type of the later genus, based on that removal, is not valid.

By this renewed claim of the species in question to enter again amongst the species whence the type of the later genus can be selected, the equilibrium is upset all along the line, and down come a score, perhaps, of generic ninepins whose stability depended upon the validity of this first step.

It is not possible of course to entirely avoid this tragedy of

the ninepins so well known to and so justly feared by everyone who has endeavoured to fix genera upon solid ground, because under any process where an assumption is made that such a species was withdrawn under *another name* and placed in a new genus, and further steps based upon that action, there is always the possibility that it may turn out that the two species were after all not identical, and down come several ninepins, and the whole position has to be reconsidered.

We have to recognize and face this possibility. What we want to do, however, is to avoid as much as possible any steps of elimination which might court such a catastrophe.

The case of the genus *Neriene* (see page 9 of the present paper) will furnish a good illustration. Blackwall had a perfect right to include *N. marginata* if he pleased, and it cannot be helped if, being the last species left in, owing to the withdrawal of the other two, it becomes the type of *Neriene*, and being congeneric (sec. authors) with *Linyphia*, he loses his genus as a synonym of the latter.

If, however, this species be regarded as removed by implication under *Linyphia*, Latreille, then *N. cornuta* will be left in as the type of the genus. In this case *cornuta* would not be available as the type of *Dicyphus*, Menge, as it would be if "implication" were not recognized.

But it may afterwards be discovered that *N. marginata* is not really congeneric with *Linyphia*, and it renews its right to serve as the type of *Neriene*, and being the last left in becomes the type: *cornuta* forthwith loses its position as the type and claims again a right to serve as the type of *Dicyphus*, other subsequent genera will be involved, and so on to distraction.

Apart from these lamentable consequences, retrospective implication cannot be upheld, because it involves the denial of the right of an author to include any species he likes in any genus he likes to make, and claim that species as the type, even to his own undoing.

Subsequent withdrawals of species, moreover, can obviously only take place directly under the same name or under a recognized synonym.

It is unfortunate that there appears to be no way of avoiding the catastrophe I have referred to above in connexion with steps based upon an assumption of the identity of species. It might be urged, Why not wait until the synonymy of all the species involved has been finally settled? Theoretically, no doubt, this should be the first step to take; practically it cannot be done without years of labour, and even then with very doubtful results. What hopes can one entertain when

perhaps an author's conception of one of his own species becomes modified as time rolls on and he sends three totally different forms to represent it at three different stages of his career in answer to urgent requests for examples of his species?

List of Genera referred to.

<i>Walckenaeria</i> , Blackwall, p. 8.	<i>Zygiella</i> , nom. nov., p. 15.
<i>Arrecerus</i> , Simon, p. 10.	<i>Nuctobia</i> , Simon, p. 15.
<i>Cornicularia</i> , Menge, p. 9.	<i>Leucauge</i> , Darwin, p. 16.
<i>Diplocephalus</i> , Bertkau, p. 9.	<i>Ariadne</i> , Doleschall, p. 16.
<i>Prosopotheca</i> , Simon, p. 9.	<i>Lagenicola</i> , Simon, p. 17.
<i>Metargus</i> , nom. nov., p. 8.	<i>Trechona</i> , C. L. Koch, p. 17.
<i>Nerine</i> , Blackwall, p. 9.	<i>Pezionys</i> , Simon, p. 18.
<i>Viderius</i> , Simon, p. 10.	<i>Sigaloëssa</i> , Templeton, p. 18.
<i>Gonatium</i> , Menge, p. 10.	<i>Simamorus</i> , Templeton, p. 18.
<i>Lycæna</i> , Sundevall, p. 10.	<i>Æobatus</i> , Templeton, p. 19.
<i>Lycodia</i> , Sundevall, p. 11.	<i>Myargus</i> , Templeton, p. 19.
<i>Steatoda</i> , Sundevall, p. 11.	<i>Xenophonus</i> , Templeton, p. 19.
<i>Eucharia</i> , C. L. Koch, p. 13.	<i>Ceroclus</i> , Templeton, p. 19.
<i>Stearodea</i> , gen. nov., p. 13.	<i>Amawobius</i> , C. L. Koch, p. 19.
<i>Phurrolithus</i> , C. L. Koch, p. 13.	<i>Cavator</i> , Blackwall, p. 20.
<i>Zilla</i> , C. L. Koch, p. 14.	<i>Ciniflo</i> , Blackwall, p. 26.
<i>Zygia</i> , C. L. Koch, p. 14.	<i>Cælotus</i> , Blackwall, p. 20.

WALCKENAERIA, Blackwall, Lond. Edinb. Phil. Mag. 3, iii. p. 104 (August 1833).

Three species were originally referred to this genus:— (1) *W. acuminata*, Blackw.; (2) *W. cristata*, Blackw.; (3) *W. cuspidata*, Blackw. The generic name being spelt as above, not *Walckenaera*.

W. acuminata was withdrawn under *Micryphantes*, subgenus *Arrecerus*, by Simon in 1864 under the name *A. camelinus* (C. L. Koch), with which, see Thorell and Simon, it is identical.

The second, *W. cristata*, was withdrawn by Walckenaer in 1841 under his genus *Argus* under the name *A. bicornis*, which, see Thorell and Simon, = *W. cristata*. And thus *W. cuspidata* is left in as the type.

Note.—It makes no difference that *Argus* is a nom. præocc., and in case any species should be left in the group, I here propose the name *Metargus* in its place. If all the species originally under *Argus* have been previously removed to other generic names, then *Metargus* becomes a synonym under whatever generic name is connected with the last species left in or otherwise selected as type, because the name under which the type of *Argus* has been removed is in reality a

name substituted for *Argus*, Walck.,—a nom. præocc. by Temminck for Aves.

W. cristatus, Blackw., is not the type of *Diplocephalus*, Bertkau, as stated by Simon (Hist. Nat. Ar. ii. p. 657), but *D. foraminifer* (O. P. Cambr.). *W. acuminata* was selected as the type of *Walck naeria* by Thorell in 1869, but it had already been withdrawn by Simon in 1864.

A. monoceros, Wid., was quoted by Menge as the type of his genus *Cornicularia* in 1869, but his description and figures do not represent this species, but *W. unicornis*, Cambr., sec. Thorell and Simon; and *A. monoceros*, Wil., was in 1884 referred by Simon to his genus *Prosopotheca*, and subsequently (Hist. Nat. Ar. ii. p. 662) selected as the type.

We can account, then, for the genera and species involved as follows:—

WALCKENAERIA, Blackw., 1833.—Type, *W. cristata*, Blackw.

ARRECERUS, Simon, 1864.—Type, *A. camelinus* = *acuminatus*, Blackw.

CORNICULARIA, Menge, 1869.—Type, *C. unicornis* (Cambr.).

DIPLOCEPHALUS, Bertkau, 1884.—Type, *D. foraminifer* (Cambr.).

PROSOPOTHECA, Simon, 1884.—Type, *P. monoceros* (Wid.).

NERIENE, Blackwall, Lond. Edinb. Phil. Mag. 3, iii. p. 187 (Sept. 1833).

Three species were originally referred to this genus:—(1) *N. marginata*, Blackw.; (2) *N. rubens*, Blackw.; (3) *N. cornuta*, Blackw.

The genus was first broken up when the second species, *N. rubens*, was removed under *Argus* by Walckenaer under the name *A. cheliferus* in 1841, and subsequently again removed in 1868 under *Gonatium* by Menge under the name *G. cheliferum*, which, sec. Thorell, Simon, and Kulczynski, = *N. rubens*, Blackw.

The third species was removed under *Dicyphus* by Menge in 1869 under the name *D. cilunculus*, which, sec. Thorell and Simon, = *N. cornuta*, Blackw.

N. marginata is thus left in as the type of the genus, and, sec. Thorell, Simon, and Kulczynski, this species = *Linyphia clathrata*, Sundevall. *Neriene* will thus follow the fortunes of this species, for no type had ever been definitely selected for *Neriene* until November 1900, when the Rev. O. Pickard Cambridge ('List of British and Irish Spiders,' p. 41) referred one species, *N. rubens*, to the genus with the words

“*Neriene*, Blackw. (sensu restricto).” But the action of elimination had already set in, and left the type high and dry, so that this selection becomes void.

Nearly every author had ignored Blackwall's name *Neriene* until 1894, when Simon restored it, but assigned to it as its type *N. fusca*, Blackw., a species not originally included in the genus.

Type, *Neriene marginata*, Blackw., = *L. clathrata*, Sund.—Europe.

ARRECERUS, Simon, Hist. Nat. Ar. p. 197 (1864).

Two species were included in this genus originally:—(1) *A. camelinus*, C. Koch; (2) *A. monoceros*, Wid.

A. monoceros, Wid., was withdrawn by Simon under his new genus *Prosopotheca* (Ar. Fr. v. p. 829, 1884), leaving *camelinus* as the type. This is undoubtedly identical with *Wolckenaeria acuminata*, Blackw. (female).

Type, *Arrecerus camelinus* (C. Koch) (= *W. acuminata*, Blackw.).—Germany.

VIDERIUS, Simon, Hist. Nat. Ar. p. 196 (1864).

Two species were originally referred to this genus:—(1) *V. cucullatus*, Koch; (2) *V. tibialis*, Koch.

The first was taken out as the type of *Ithyomma* by Bertkau in 1884, being the only species referred to the genus, leaving the second as the type. This species is now regarded as identical with *antica*, Wid.

Type, *Viderius tibialis* (Koch) = *V. antica* (Wid.).—Germany.

GONATIUM, Menge, Preuss. Spinn. p. 180 (1868).

Two species were originally referred to this genus:—(1) *G. cheliferum*, Wider; (2) *G. isabellinum*, C. L. Koch.

This genus has never been broken up, nor had the type been selected until 1884, when Simon selected *rubens*, Blackw., as the type (Ar. Fr. v. p. 546, 1884), a species which is regarded by both Thorell and Simon as identical with *cheliferum*, Wider.

Type, *Gonatium cheliferum* (Wider), 1834 = *G. rubens* (Blackwall), 1833.—Europe.

LYCÆNA, Sundevall, Kongl. Vet.-Akad. Handlingar (Act. Holm.), p. 265 (1833).

A single species only was referred to this genus originally.

The name is, however, a nom. præocc. by Fabricius for Lepidoptera, 1808. Cf. under *Lycodia*, 1833.

Type, *Lycæna spinimana*, Sundevall, 1833.—Sweden.

LYCEDIA, Sundevall, Conspectus Arachnidum, p. 22 (1833).

The author refers to this genus thus:—" *Lycodia*, nob. (Act. Holm. 1832, add. ad Aran.)." The date given is that on which the paper was read. The generic name given, however, is *Lycæna*, not *Lycodia*, in Sundevall's reference. It appears from Thorell (Enrop. Spid. p. 141) and from Westring (Aran. Succ. p. 325) that Sundevall leaves no doubt that the name *Lycodia* includes all that the author intended under *Lycæna*, and, further, that Sundevall states that the name was a typographical error, due to a slip of the pen or to a misprint, and that he wished the name *Hecaerge*, Blackwall, to take its place (cf. Kongl. Vet.-Akad. 1837-40, p. 340).

I have not been able to examine this work, but the above statement is made by Westring and Thorell, and I assume it to be correct.

Thorell and Westring, followed by other authors, have placed *Lycodia* as a synonym under *Zora*, for *Hecaerge* was also preoccupied. The question is whether *Lycodia* is to stand or not.

Is the name *Lycodia* available for any other genus in the future? Thorell, Westring, and other authors evidently think not, for they make it a synonym of *Zora*. But if it cannot be used again, it has already fulfilled the functions of a sound generic name applied under conditions which are valid according to recognized rules of nomenclature. If, then, it is a sound generic name there can be no legitimate reason for passing it over.

The name is a good one, not a mere misprint of *Lycæna*. It is not even a typographical error in the strict sense of the term. (The chances are that Sundevall had the *Lycosa*-like character of the type in his mind and unconsciously wrote a Latin name equivalent to *Lycæna*, which was selected—" *ob similitudinem, saltem oculorum, cum araneis s. d. lupis.*") And it is impossible not to recognize it and restore it to its generic position, with the type of *Lycæna*, Sund., as its representative species.

Type, *Lycodia spinimana*, Sundevall, 1833.—Sweden.

STEATODA, Sundevall, Conspectus Arachnidum, p. 16 (1833).

Four species were originally referred to this genus, but no

author of the species was quoted:—(1) *Therid. 4-punctatum*; (2) *Therid. castaneum*; (3) *Therid. albomaculatum*; (4) *Therid. lunatum*.

The first species, presumably Walckenaer's, which, sec. Thorell, Simon, and Kulczynski, = *Eucharìa bipunctata*, C. L. Koch, = *Aranea bipunctata*, Linn., and the second species, presumably Olivier's, which, sec. Thorell, = *Eucharìa hera*, C. L. Koch, were both removed by the latter author to his new genus *Eucharìa* in 1835. The third, which, sec. Thorell, = *Aranea lineata*, Linn., was removed by Koch under *Bolyphantes* in 1841 (or, if it be *Th. albomaculatum*, Hahn, which, sec. Thorell, = *corollatus*, Linn., was removed by Koch under *Phrurolithus* in 1839).

The fourth species then, which, sec. Thorell and Simon, = *tipidaricum*, C. L. Koch, is left as the type of the genus, and the name *Steatoda* must follow the fortunes of this species.

Thorell says: "According to Sundevall's characteristics of this genus, *Th. 4-punctatum* and *Th. castaneum* must be considered as its types, and these species are also the *first* entered by him as thereto belonging; afterwards he names *T. albomaculatum* &c."

Now Sundevall quotes the species after his diagnosis, exactly as I have placed them above, and he nowhere definitely points to either of the species as more typical than the others. They all, for Sundevall, fell under his genus—or, if *not*, why did he place them there?—and must bear equal responsibility. As to characters in the diagnosis, under *Theridium* he says the eyes are small, and under *Steatoda* he says they are large; and even this qualification is placed in brackets, as though he were doubtful of its value.

Seeing that the author, presumably with full consciousness of the characters contained in his diagnosis, immediately includes four distinct species, how can it be reasonably urged that he did not mean to include the last two?

Under these considerations it is impossible to allow Thorell's theory of Sundevall's wishes to override C. L. Koch's action when he removed, as he had a perfect right to do, the first two species under *Eucharìa*. It makes no difference that *Eucharìa* was a nom. præocc. The species included follow the fortunes of the Eucharian group; they cannot, so far as fixing on the type is concerned, be replaced in the original generic group.

Otherwise, of course, Thorell's action, for he forms a new genus *Lithyphantes*, with *corollatus* = *albomaculatum* as its type, would have been a perfectly legitimate selection of two

typical species or a restriction of the group to the first two species.

Type, *Steatoda lunata*, Sund. (= *T. tepidariorum*, C. L. K.).—Europe.

EUCHARIA, C. L. Koch, Deutsch. Ins. (Panzer) Heft 134 (1835) (sec. Davies Sherborn, F.Z.S., in Index Animalium, MS.).

Two species were originally referred to this genus:—(1) *E. hera*, Heft 134, 9; (2) *E. bipunctata*, Heft 134, 10, 11.

The genus was first broken up by Koch himself, who in 1839 removed *E. bipunctata*, and placed it, under the name *P. ornatus*, C. L. Koch (which, sec. Thorell, Simon, and Kulezynski, is a synonym), in his genus *Phrurolithus*.

The first species then, which, sec. Thorell, = *castaneus*, Clerck, and *castanea*, Oliv., remains as the type of the genus. *Eucharia* is, however, a nom. præocc. by Hübner, Lepidoptera, 1816.

The type is included by Simon in his genus *Teutana*, 1881.

Type, *Eucharia hera*, C. L. Koch, = *E. castanea* (Olivier), 1789.—Europe.

STEARODEA, gen. nov.

Since *Aranea bipunctata*, Linn., was withdrawn by Koch under his new genus *Eucharia* in 1835, and there is no other name available under which this species and its allies have at any time been placed, I here propose the name *Stearodea* (*στέαρ*, wax; *οἶδον*, resembling), which means essentially the same as *Steatoda*, for the group of which *A. bipunctata*, Linn., is typical.

Type, *Stearodea bipunctata* (Linn.).—Europe.

PHURROLITHUS, C. L. Koch, Die Arach. vi. p. 100 (1839).

Nine species were originally referred to this genus:—(1) *P. corollatus* (Linn.); (2) *P. hamatus*, Koch; (3) *P. lunatus*, Koch; (4) *P. erythrocephalus*, Koch; (5) *P. festivus*, Koch; (6) *P. minimus*, Koch; (7) *P. rufescens*, Koch; (8) *P. ornatus*, Koch; (9) *P. trifasciatus*, Koch.

This group was not broken up or restricted in any effectual manner until 1869; for Westring's action in 1851 (Götheborg. Kongl. Vetenskaps, Heft 2, p. 46) is not valid, as definitely limiting the genus to the two species mentioned, since he

makes no new genus including any of the species originally included under *Phrurolithus*. Under *Micaria* Westring places (1) *fulgens*, Walck., and (2) *pulicaria*, Sund., neither of these, either directly or through a synonym, having been referred to the original genus. In 1869 (Europ. Spid. p. 146) Thorell selected *festivus*, Koch, as the type of *Phrurolithus*.

Type, *Phrurolithus festivus* (C. L. Koch), 1835.—Europe.

ZILLA, C. L. Koch, Deutsch. Ins. (Panzer) Heft 124, 125 (1834) (sec. Index Animalium, MS.).

Two species were originally referred to this genus:—(1) *Z. albimacula*, C. L. Koch; (2) *Z. montana*, C. L. Koch.

The group was not broken up nor was the type selected until 1837, when Koch himself selected, on p. 5 of the 'Uebersicht,' under *Zilla*, "Typ. *Zilla albimacula*, Koch, Deutsch. Ins." This species is, sec. Thorell, Simon, and Kulczynski, identical with *diodia*, Walck., this latter name having priority.

Thorell, in 1869 (Europ. Spid. p. 60), says:—"As type for the genus *Zilla*, Koch, it is true, gives *Z. albimacula* (*Ep. diodia*, Walck.), but as we feel ourselves obliged to refer that species to the genus *Epeira*, we have assumed as typical species *Zygia calophylla* (Walck.) = *Z. x-notata* (Clerck), which appears to us best to express the peculiarities of the genus, is the first species of the genus described, and has since been by Koch himself assigned to *Zilla*."

But neither Thorell nor Koch himself can, according to the customary views of systematists, alter the published and selected type any more than Koch could alter the name *Zilla* itself in a subsequent publication, and, in any case, *calophylla*, Walck., was not included when *Zilla* was first founded.

Type, *Zilla albimacula*, C. L. Koch, = *diodia*, Walck.—Europe.

ZYGIA, C. L. Koch, Deutsch. Ins. (Panzer) Heft 123, 17, 18, 19 (1834) (sec. Index Animalium, MS.).

A single name only was originally referred to this genus:—*Aranca calophylla*, Walck. Faune Par. ii. p. 200.

Under this name, however, two species were involved (cf. Koch, Thorell, and Simon)—*x-notata*, Clerck (= *A. litterata*, Olivier), and *Eucharria atrica*, C. L. Koch. Both these species were included by C. L. Koch under *Zygia*, the male of the latter on fig. 17, the female of the former on figs. 18, 19.

This male Koch, in 1844, renamed *atrica*, reserving the name *calophylla* for the female, referring the former to his

genus *Eucharia* of 1835. This action, however, does not constitute a withdrawal of this species from the possibility of serving as the type of *Zygia*, because a withdrawal could only be effective if made at the time when the genus was first founded.

In 1866 Menge placed *calophylla*, Koch, under *Zilla*, and *atrica*, Koch, under *Zygia*; but this action, again, does not constitute a limitation or selection of a type, and either of the two species involved may still be the type of *Zygia*.

I am not able to find that any type has ever been definitely selected for *Zygia*, and I therefore select as the type the species represented by the male figured by Koch, Heft 123 (17).

Type, *Zygia calophylla* (Walck.), a 1 partem, = *Eucharia atrica*, C. L. Koch, 1844.—Europe.

ZYGIELLA, nom. nov. for *Zygia*, preoccupied by Fabricius for Coleoptera, 1775.

I here propose the name *Zygiella* in the place of *Zygia*, with *Z. atrica* (C. L. Koch) male, Deutsch. Ins. Heft 123 (17), as the type.

Type, *Zygiella atrica* (C. L. Koch), 1844, = *Ar. calophylla*, Walck., ad partem.

NUCTOBIA, E. Simon, Hist. Nat. Ar. p. 236 (1864).

Ten species were originally referred to this genus which were included in the two subgenera *Meta*, C. L. Koch, and *Zilla*, C. L. Koch. Simon evidently intended the name to be applied to a group embracing these two genera of Koch's; but so far as the selection of types is concerned, a subgenus and genus rank together on equal terms as groups, without reference to their relative systematic importance. Thorell considers that *Nuctobia* is not needed because the species included fall under either *Meta* or *Zilla*. But since it is impossible to say what future subdivisions may or may not be made, it is safer to ascertain the type of *Nuctobia*; for if a new genus were ever founded upon one or other of the species originally included under it, this name would have to be revived. It is not a "generic nomen nudum," and therefore has a type species belonging to it.

The type species of the two earlier subgenera having been ascertained, then the type of *Nuctobia* will be looked for amongst the residue left in.

The species originally included are the following:—
(1) *Meta fusca*, Walck., Europe; (2) *M. albomaculata*, Lucas,

Algiers; (3) *Zilla calophylla*, Walck., France; (4) *Z. atrica*, C. L. Koch, Europe; (5) *Z. acalypha*, Walck., Europe; (6) *Z. diodia*, Walck., Europe; (7) *Z. inclinata*, Walck., Europe; (8) *Z. albimaculata*, C. L. Koch, Germany; (9) *Z. geniste*, C. L. Koch, Germany; (10) *Z. antriada*, Walck., France.

Of these, *fusca*, Walck., and *antriada*, Walck. (which are, sec. Thorell and Simon, identical), are no longer available for selection, the former being the type of *Meta*; while *albimaculata*, C. L. Koch, a misquotation for *albimacula*, is the type of *Zilla* and is identical with *Z. diodia* (Walck.). I am not able to find that any of the remaining six species have been withdrawn under new genera (for *geniste*, C. L. K., = *acalypha*, Walck., was not originally included under *Mangora*, O. P. Cambr.), or that any type has ever been selected for the genus; and I therefore cite number (3) *calophylla*, Walck. (= *x-notata*, Clerck), as distinct from number (4) *Z. atrica*, Koch, as the type of *Nuctobia*.

Type, *Nuctobia calophylla*, Walck. (ad partem = *x-notata*, Clerck = *litterata*, Olivier, the last name having priority, since Clerck's names have been dropped).

LEUCAUGE, Darwin, in White, Ann. & Mag. Nat. Hist. vol. vii. p. 473 (1841).

A single species was referred to this genus by Darwin in his MSS.—*Leucauge argyrobapta*, the specific name being conferred by White. Adam White distinctly says that the generic name was proposed by Darwin, and he gives part of Darwin's original description of the spider, with an account of its web and habit—a horizontal orb-web, with a tangle of cross-threads above and below, the spider hanging underneath the former, its red spots shining like “a ruby with a bright light behind it.” No one who has ever been in a tropical Brazilian forest will hesitate one moment in recognizing this as a species of the *Argyropeira* group of Emerton.

One feels sorry at the necessity of sacrificing so beautiful a name for the ugly one *Leucauge* proposed by Darwin, but priority lies with the latter.

Type, *Leucauge argyrobapta*, White, 1841.—Rio Janeiro.

ARIADNE, Doleschall, Natuurkundig Tijdsch. voor Ned. Ind. xiii. p. 410 (1857).

A single species was originally referred to this name:—*A. flogellum*, Dol., p. 411.

For this generic name was substituted by Thorell (Europ.

Spid. p. 63, 1869) *Ariamnes*, on the ground that it was identical with *Ariadna*, Aud. in Sav.; but this action is no longer admitted as valid by systematists—cf. *Attus* (Arachnida) and *Atta* (Hymenoptera), both names being now accepted.

Ariadne is, however, preoccupied by Horsfall for Lepidoptera, 1829.

Type, *Ariadne flagellum*, Doleschall, 1857.—Amboina.

LAGENICOLA, P. Simon, Hist. Nat. Ar. p. 316 (1864).

A single species only was originally referred to this genus:—*L. Doumerci* (Walck.).—Bois de Boulogne.

Both Walekenaer and Simon evidently mistook the identity of this spider in referring it to the group *Attus*, as Simon himself points out in Ar. Fr. iv. p. 299. It is perfectly evident from Walekenaer's description of the cocoon (Ins. Apt. i. p. 425) and from Simon's remark—"Coque en forme de bouteille"—and from his drawing on page 322 *op. cit.*, that the species is really an *Agræca*.

The question is which species, for the name *Doumerci* must be retained and one or other species referred to it, according to the rules of nomenclature. Walekenaer says: "trouvée vers le milieu de juin au bois de Boulogne, dans le parc de Madrid, par le Docteur Doumerc."

Simon (Ar. Fr. iv. pp. 302, 304) says that both the species *Agræca Haglundi*, Thor., and *Agræca brunnea*, Blk., are found in the environs of Paris—the former being "très commune dans les bois des environs de Paris," the latter being "beaucoup moins commune que la précédente."

I here reserve the name *Doumerci* for *Haglundi*, Thorell, the first name of course having precedence. The type of *Agræca* is *A. linotina* (C. L. Koch), = *A. brunnea*, Blackw., so that *Lagenicola* becomes a synonym of *Agræca*, Westring, 1862.

Type, *Lagenicola Doumerci* (Walck.).—Europe.

TRECHONA, C. L. Koch, Uebersicht, v. p. 74 (1850).

Six species were originally included under this name:—(1) *Mygale zebra*, Walck., C. L. Koch, Die Arachn. ix. p. 60, fig. 729; (2) *M. bistriata*, C. L. Koch, v. p. 16, fig. 347; (3) *M. incana*, C. L. Koch, ix. p. 70, fig. 735; (4) *M. icterica*, C. L. Koch, v. p. 22, fig. 351; (5) *M. lycosiformis*, C. L. Koch, ix. p. 85, fig. 745; (6) *M. drassiformis*, C. L. Koch, ix. p. 69, fig. 734.

The genus was first broken up by Simon, who in 1864 removed *M. zebra*, Walck., and *M. drassiformis*, C. L. Koch,

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under his new genus *Pezionyx* (Hist. Nat. Ar. p. 68). *M. icterica*, C. L. Koch, was removed under *Brachythele* by Ausserer in 1871 (Verh. z.-b. Ges. Wien, p. 173), and in the same publication he limits *Trechona* to *M. zebra* and *M. lycosiformis*, the latter being included doubtfully—"Hierher gehört vielleicht hoch." *M. zebra*, however, was no longer available under *Trechona*, and cannot possibly be the type, since it had already been removed by Simon; so that *M. lycosiformis* remains as the type, for it was originally included in the genus, and, doubtfully or otherwise, was definitely referred by Ausserer to *Trechona* in his limitation, an action which is quite valid, since he founded a new genus at the time out of the species originally included.

Simon, in Hist. Nat. Ar. (2) i. p. 179, selected *T. venosa* (Latreille) = *zebra*, Walck., as the type, sinking his own genus *Pezionyx*.

Type, *Trechona lycosiformis* (C. L. Koch).—Brazil.

PEZIONYX, E. Simon, Hist. Nat. Ar. p. 68 (1864).

Four species were originally referred to this genus:—(1) *Mygale zebra*, Walck., Brazil; (2) *Diplura macrura*, Koch, St. Juan; (3) *Trechona drassiformis*, Koch (*pumilio*, Walck.), St. Thomas; (4) *Mygale guyanensis*, Walck., Guiana.

Of these *macrura* had already been occupied as the type of *Diplura*, C. L. Koch (Uebersicht, v. p. 75, 1850).

This genus has never, so far as I am aware, been broken up, nor have any of the species been removed to any new genera founded on them. The reference of one or more of them to *Trechona* and other genera by authors does not involve any valid process of elimination or limitation.

The type, then, remains to be selected, and I here select *P. zebra* (Walck.) = *P. venosa* (Latreille) as the type.

Type, *Pezionyx zebra* (Walck.) = *P. venosa* (Latreille).—Brazil.

SIGALOËSSA, Templeton, in Blackw. Sp. Gt. Bt. & Ir. pt. ii. p. 198 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Sigaloëssa aurata* under *Theridion auratum*.

Type, *Sigaloëssa aurata*, Templeton, 1864.—Ireland.

SINAMORUS, Templeton, in Blackwall, Sp. Gt. Bt. & Ir. pt. ii. p. 198 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Sinamorus hæmatostigma* under *Theridion hæmatostigma*.

Type, *Sinamorus hæmostigmus*, Templeton, 1864.—Ireland.

ÆOBATUS, Templeton, in Blackw. Spid. Gt. Bt. & Ir. pt. ii. p. 237 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Æobatus nasatus* under *Linyphia nasata*.

Type, *Æobatus nasatus*, Templeton, 1864.—Ireland.

MYAGRUS, Templeton, in Blackw. Spid. Gt. Bt. & Ir. pt. ii. p. 283 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Myagrus pilosus* under *Neriene pilosa*.

Type, *Myagrus pilosus*, Templeton, 1864.—Ireland.

XENOPHONUS, Templeton, in Blackw. Spid. Gt. Bt. & Ir. pt. ii. p. 283 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Xenophonius pallidulus* under *Neriene pallidula*.

Type, *Xenophonius pallidulus*, Templeton, 1864.—Ireland.

CEROCLUS, Templeton, in Blackw. Spid. Gt. Bt. & Ir. pt. ii. p. 284 (1864); MS. History of Irish Arachnida.

Blackwall publishes Templeton's species *Ceroclus carinatus* under *Neriene carinata*.

Type, *Ceroclus carinatus*, Templeton, 1864.—Ireland.

AMAUROBIUS, C. L. Koch, Deutsch. Ins. (Panzer), Heft 141, 5, 6 (Oct. 1st, 1836) (sec. Index Animalium, MS.).

This date, 1st October, 1836, appears on the cover of the above work with the species quoted which were published at the time. The 'Uebersicht,' C. L. Koch (erstes Heft), in which the genus *Amaurobius* occurs, was published, according to the cover, in 1837. It is probable that the 'Uebersicht' was written first because *Amaurobius roscidus* and *tigrinus* are there published as new species, whereas in the Deutsch. Ins. they are referred to the author (Koch). But, whether or no, the Deutsch. Ins. was published first.

Two species were originally included in this genus:—*A. tigrinus*, Koch, and *A. roscidus*, Koch.

The first species (which, sec. Thorell and Simon, = *Clubiona saxatilis*, Blackwall, and = *Drassus atropos*, Walckenaer) was withdrawn in 1840 under *Cuvator* by Blackwall (Proc.

Linn. Soc. i. p. 66), leaving *A. roscidus* in as the type. This species has been identified by Thorell (1873) as *Drassus segestriiformis*, Dufour, 1820; and this specific name therefore has priority, for though it is doubtful what species *segestriiformis* really is, we must take the first identification as correct.

Type, *Amaurobius roscidus*, C. L. Koch, = *Drassus segestriiformis*, Dufour, 1820.—Europe.

CAVATOR, Blackwall, Proc. Linn. Soc. i. p. 66 (1840).

A single species was originally referred to this genus:—*Clubiona saxatilis*, Blackwall.

The name *Cavator* becomes a synonym of *Amaurobius*, if *A. segestriiformis* (Duf.) and *A. atropos* (Walck.) are regarded as congeneric.

Type, *Cavator saxatilis* (Blackwall) = *Drassus atropos*, Walckenaer, 1830.—Europe.

CINIFLO, Blackwall, Ann. & Mag. Nat. Hist. vol. vi. p. 229 (1840).

A single species was originally referred to this genus:—*Clubiona atrox*, Latreille.

Since the name *Amaurobius* has now been restored to its original signification the name *Ciniflo* must also be restored, and under it will be included the species which have usually been referred to *Amaurobius*.

Type, *Ciniflo atrox* (Latreille) = *Aranea fenestralis*, Stroem.—Europe.

CÆLOTES, Blackwall, Trans. Linn. Soc. xviii. p. 618 (1841)

A single species was originally referred to this genus, *Drassus saxatilis*, Blackwall—a species which had already been referred to the genus *Cavator* by Blackwall.

The name *Cælotes* therefore becomes a synonym of *Cavator*, both being now synonyms of *Amaurobius*.

Type, *Cælotes saxatilis* (Blackwall) = *Drassus atropos*, Walckenaer, 1830.—Europe.

III.—*New Genera and Species of Coccidæ, with Notes on known Species.* By T. D. A. COCKERELL.

ALL measurements of legs, antennæ, &c. are in μ . The tarsus is measured without the claw.

Ripersia sporoboli, sp. n.

♀.— $2\frac{1}{2}$ millim. long, 1 broad; much elongated, broad